CLAIMS

What is claimed is:

1. In an Multiprotocol Label Switching (MPLS) network environment having a first switching node and a second switching node, a method comprising:

establishing a tunnel key to identify a tunnel path, the tunnel path used to transport a packet from the first switching node and the second switching node; and

automatically generating one or more virtual circuit (VC) labels based on the tunnel key, each of the VC labels used to identify a path on which the second switching node is to forward a packet received from the first switching node.

2. The method of claim 1, wherein the automatically generating of the one or more VC labels includes automatically generating one or more VC labels based on the tunnel key without a negotiation session between the first and second switching nodes.

3. The method of claim 1, wherein the automatically generating of the one or more VC labels includes generating a VC label for each quality of service (QoS) level supported by an ATM network.

4. The method of claim 1, wherein the automatically generating of the one or more VC labels includes generating a VC label for each quality of service (QoS) level supported by an ATM adaptation layer.

5. The method of claim 1, wherein the automatically generating of the one or more VC labels includes generating each VC label by bit shifting of the tunnel key.

6. A switching node for a Multiprotocol Label Switching (MPLS) network, comprising:

a routing control module to establish a tunnel key, the tunnel key to identify a tunnel path from the switching node to a second switching node; and,

a VC generator module to automatically generate one or more VC labels based on the tunnel key.

7. The switching node of claim 6, wherein the VC label generator module is to automatically generate the one or more VC labels without negotiating with another switching node.

8. The switching node of claim 6, wherein the VC label generator module is to automatically generate a VC label for every quality of service (QoS) level supported by an ATM network.

9. The switching node of claim 6, wherein the VC label generator module is to automatically generates a VC label for every quality of service (QoS) level supported by an ATM adaptation layer

10. The switching node of claim 6, wherein the VC label generator module is to automatically generate one or more VC labels by bit shifting of the tunnel key.

11. A computer-readable medium, having stored thereon:

a first sequence of instructions which, when executed by a processor, causes the processor to establish a tunnel key identifying a tunnel path, the tunnel path

used to transport a packet between a first switching node and a second switching node; and

a second sequence of instructions which, when executed by a processor, causes the processor to automatically generate one or more VC labels based on the tunnel key, each VC label identifying a route on which the second switching node forwards a packet received via the tunnel path.

12. The computer readable medium of claim 11, wherein the second sequence of instructions, when executed by a processor, does not cause the processor to establish a negotiation session with a second processor.

13. The computer readable medium of claim 11, wherein the second sequence of instructions, when executed by a processor, causes the processor to automatically generate one or more VC labels based on the tunnel key, and to generate a VC label for each quality of service (QoS) level supported by an ATM network.

14. The computer readable medium of claim 11, wherein the second sequence of instructions, when executed by a processor, causes the processor to automatically generate one or more VC labels based on the tunnel key, and to generate a VC label for each quality of service (QoS) level supported by an ATM adaptation layer.

15. The computer readable medium of claim 11, wherein the second sequence of instructions, when executed by a processor, causes the processor to automatically generate one or more VC labels based on the tunnel key, and to generate each VC label by bit shifting the tunnel key a predetermined number of times.

16. An apparatus, comprising:

a routing control means for establishing a tunnel key, the tunnel key to identify a tunnel path from the switching node to a second switching node; and,

a virtual circuit (VC) label generator means for generating one or more VC labels based on the tunnel key.

17. The apparatus of claim 16, wherein the VC label generator means generates the one or more VC labels without negotiating with another switching node.

18. The apparatus of claim 16, wherein the VC label generator means generates a VC label for every quality of service (QoS) level supported by an ATM network.

19. The apparatus of claim 16, wherein the VC label generator means generates a VC label for every quality of service (QoS) level supported by an ATM adaptation layer

20. The apparatus of claim 16, wherein the VC label generator means generates one or more VC labels by bit shifting of the tunnel key.